This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-17 (canceled).

Claim 18 (previously presented): A method for transmitting data signals in a communication system with access organized on a distributed basis to an access medium using a plurality of transmission modes by transmitting at least one pilot signal from a transmitter to a receiver, the method comprising:

calculating, by the receiver, an assignment table in respect of the transmission modes using at least one pilot signal;

transmitting the assignment table from the receiver to the transmitter; and

transmitting the data signals using the transmission modes in accordance with the assignment table in a direction which is one of from the transmitter to the receiver and from the receiver to the transmitter.

Claim 19 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 18, wherein basic transmission is specified in accordance with IEEE 802.11.

Claim 20 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 19, wherein at least one pilot signal is transmitted in an RTS message.

Claim 21 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 19, wherein the assignment table includes at least one of a bit loading table for adaptive modulation and expansion data for expansions of a physical layer which extend beyond Standard IEEE 802.11a.

Claim 22 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 21, wherein a request from the transmitter for at least one of adaptive modulation and expansions of the physical layer which extend beyond Standard IEEE 802.11a is made in an RTS message.

Claim 23 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 21, wherein at least one of a request and an acknowledgement from the receiver in respect of at least one of adaptive modulation and expansions of the physical layer which extend beyond Standard IEEE 802.11a are transmitted in a CTS message.

Claim 24 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 18, wherein the assignment table is transmitted by the receiver in a CTS message.

Claim 25 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 18, wherein a communication terminal includes both transmitter and receiver functionality and the assignment table is transmitted in a direction which is one of from the transmitter to the receiver and from the receiver to the transmitter.

Claim 26 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 25, wherein the assignment table is employed in the transmitted data signals.

Claim 27 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 18, wherein for transmission of the assignment table at least one data symbol is used which consists of 24 bits.

Claim 28 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 21, wherein use of a specific expansion of the physical layer which extends beyond Standard IEEE 802.11a is confirmed in a CTS message.

Claim 29 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 18, wherein the communication system is a CSMA system according to Standard IEEE 802.11.

Claim 30 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 18, wherein the transmission modes are at least partly a result of an adaptive modulation.

Claim 31 (previously presented): A method for transmitting data signals in a communication system with centrally organized access to a transmission medium using a plurality of transmission modes by transmitting at least one pilot signal from a transmitter to a receiver, the method comprising:

calculating, by the receiver, an assignment table in respect of the transmission modes using the at least one pilot signal;

transmitting the assignment table from the receiver to the transmitter; and

transmitting, in accordance with the assignment table, the data signals using the transmission modes transferred in the assignment table from the receiver to the transmitter.

Claim 32 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 31, wherein the data to be transmitted is modulated with a fixed modulation scheme provided there is no assignment table present in respect of the transmission modes.

Claim 33 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 31, wherein the assignment table includes at least one of a bit loading table for adaptive modulation and expansion data for expansions of a physical layer which extend beyond Standard IEEE 802.11a.

Claim 34 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 31, wherein the communication system is a CSMA system according to Standard IEEE 802.11.

Claim 35 (previously presented): A method for transmitting data signals in a communication system as claimed in Claim 31, wherein the transmission modes are at least partly a result of an adaptive modulation.